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EXAMINER	
CHENG, PETER L	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/694,062	KIZAKI ET AL.	
	Examiner	Art Unit	
	Peter L. Cheng	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/27/2004, 11/29/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because:

   - **Fig. 3:** regarding "MLC" **45a** and "MLC" **45b**, these are cited in the specification as "MLB" (media link board) on **page 23, line 3** and **page 23, line 4**, respectively; it is suggested that the drawing labels be changed to agree with the specification;

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

- **Page 35, line 9:** slave unit **55a** is not shown in **Fig. 18**; step **S202** shows a request being sent to slave unit $\mathbf{55_1}$; it is assumed that applicant intended to cite $\mathbf{55_1}$ instead of **55a**;

- **Page 52, line 14:** it is assumed that applicant intended to cite **step S901** instead of **step S101**;

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 5, 6, 8, 22, 23, 24, 25, 26, 29, 30 are rejected under 35 U.S.C. 102(a) as being anticipated by **NIITSUMA [US Patent Application 2001/0050782 A1]**.

As for claims 1 and 26, NIITSUMA teaches an image-forming apparatus **[Fig. 2** digital copier **1]** with a hardware resource used for image formation **[Fig. 2** image forming means **14]**, a program for performing processing related to the image formation **[Fig. 2** controller **12;** "the control means 12 is structured by a single central processing unit CPU, and by this single CPU, operations and controls of the ... digital copier 1 are conducted"; **page 6, paragraph 92, lines 1 - 4]**, and a communication part **[Fig. 2** network connecting means **11]**, the image-forming apparatus comprising:

a format information acquisition part that acquires format information from an *apparatus connected* to the image-forming apparatus via the communication part, the format information including information on a format of image data supportable by the *connected apparatus*

[NIITSUMA illustrates a first embodiment shown in **Fig. 1** where an "image read out by digital copier 1 or 2 is transferred to the other apparatus through a network 4, and the image received from the other apparatus through the network 4 can also be formed by the digital copier 1 or 2"; **page 4, paragraph 49, lines 9 – 12.**

NIITSUMA illustrates a second embodiment shown in **Fig. 3** where "the image forming apparatus is the digital copier, and the information processing apparatus is the personal computer"; **page 6, paragraph 87, lines 3 – 5.** NIITSUMA teaches that the second embodiment is "applied *also* for a case where the image forming apparatus *communicates* with the *other* image forming apparatus"; **page 6, paragraph 87, lines 9 – 11.**

NIITSUMA teaches an "image-forming apparatus" (i.e., digital copier 1) that has a "compression means for compressing the image data and a compression selection means for automatically selecting and determining whether the image data is compressed by the compression means and transmitted, or the image data is not compressed and transmitted"; **page 8, paragraph112, lines 2 – 6.**

NIITSUMA teaches that the "compression selection means" may determine whether the image data is compressed and transmitted by various criteria. As NIITSUMA cites, one of these criterion is "according to the result of the negotiation with the apparatus of the transferring point"; **page 8, paragraph 116, lines 1 – 2.**

The "connected apparatus" corresponds to this "apparatus of the transferring point". NIITSUMA teaches that the "digital copier 1" (i.e., "image-forming apparatus") communicates with the "apparatus of the transferring point" (i.e.,

connected apparatus) "before the image data is transmitted, and the apparatus of the transmission point directs whether the image data is compressed or not, to the digital copier 1 during the communication"; **page 8, paragraph 117, lines 1 – 5.**

Therefore, NIITSUMA teaches a "connected apparatus" (i.e., the "apparatus of the transferring point"; e.g., another digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data) supportable by the "connected apparatus"**];**

a format determination part that determines a transfer-time format of image data to be transferred to the connected apparatus based on the acquired format information

[As noted above, the "image-forming apparatus" corresponds to a "digital copier 1". This copier communicates with a "connected apparatus" (i.e., another digital copier) and acquires format information supportable by the "connected apparatus".

In addition, the "image-forming apparatus" has a "compression selection means" which determines a "transfer-time format" for image data to be transferred to the "connected apparatus" as a result of the negotiation between apparatuses**];**

and an image data conversion part that performs format conversion of the image data to be transferred to the connected apparatus in accordance with the determined transfer-time format of the image data

[As noted above, the "second image-forming apparatus" has a "compression means" for compressing the image data. "Compressing data" corresponds to image data "format conversion".

The "second image-forming apparatus" determines a "transfer-time format" based on the negotiation between apparatuses. If the image data-receiving (i.e., "first image-forming") apparatus is capable of receiving compressed data, the "transfer-time format" is determined to be "compressed data". As a result, the "second image-forming apparatus" performs format conversion of the image data by using the "compression means" prior to transferring the data to the "first image-forming apparatus"].

Regarding claim 5, NIITSUMA further teaches the image-forming apparatus as claimed in claim 1, wherein

said format information acquisition part acquires the format information by making a request to the connected apparatus for the format information

[NIITSUMA teaches that the "image-forming apparatus" (i.e., digital copier 1) requests from the "connected apparatus" (i.e., "the apparatus of the transferring point") format information by communicating "with the apparatus of the

transferring point before the image data is transmitted, and the apparatus of the transmission point directs whether the image data is compressed or not, to the digital copier 1 during the communication"; **page 8, paragraph 117, lines 1 - 5].**

Regarding claim 6, NIITSUMA further teaches the image-forming apparatus as claimed in claim 1, wherein said format information includes *at least one of*:

information indicating, format by format, whether formats of image data are supportable by the connected apparatus

[As previously noted for claim 1, NIITSUMA teaches a "connected apparatus" (i.e., the "apparatus of the transferring point"; e.g., another digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data *formats*) supportable by the "connected apparatus"**];**

information on a format of image data convertible in the connected apparatus

[NIITSUMA further teaches that the "connected apparatus" may have an "extension function" that "extends" (or expands) compressed image data; **page 8, paragraph 117, lines 10 – 11.** When an "extension function" is present in the "connected apparatus", the "connected apparatus" directs the "image-forming apparatus" to compress the image data; **page 8, paragraph 117, lines 11 – 14.**

Therefore, "information on a format" of image data (i.e., compressed image data) convertible (i.e., "expandable") in the "connected apparatus" is communicated to the "image-forming apparatus".**];**

information on compression of the convertible format of image data

[As noted above, NIITSUMA teaches that the "connected apparatus" provides information by directing the "image-forming apparatus" to either compress or not compress the image data based on whether or not the "connected apparatus" has an "extension function". "When the apparatus ... has an extension function to extend the compressed image data, the apparatus directs" (the image-forming apparatus) "to compress the image data and transfer it, and when it does not have, the apparatus directs" (the image-forming apparatus) "to not compress the image data and transfer it"; **page 8, paragraph 117, lines 10 - 14];**

and information as to whether the formats of image data are convertible by hardware in the connected apparatus

[As noted above, NIITSUMA teaches that the "connected apparatus" conveys information (to the "image-forming apparatus") as to whether the image data is convertible by hardware (i.e., an "extension function") by directing the "image-forming apparatus" to either compress or not compress the image data**].**

Regarding claim 8, NIITSUMA further teaches the image-forming apparatus as claimed in claim 1, wherein

said format determination part determines a format of image data with the highest compression rate from the acquired format information as the transfer-time format of the image data to be transferred to the connected apparatus

[NIITSUMA further teaches that sometimes when image data is compressed, the amount of data after compression is not much less than the amount of data before compression. In this case, it is better to transmit image data uncompressed as this reduces processing time (for both compressing and expanding data); **page 2, paragraph 23, lines 10 –15.**

Even though the "connected apparatus" may have communicated to the "image-forming apparatus" that it is capable of expanding (or extending) compressed image data **[page 8, paragraph 117, lines 10 - 14]**, the "image-forming apparatus" may make the final determination based on a compression ratio which is "larger than a predetermined value"; **page 8, paragraph 125, lines 1 – 6.**

In this way, when the time "saved" by *sending* compressed data (e.g., by sending fewer bytes of data) is not more than the time needed to compress and expand

the data, the image-forming apparatus may determine to send uncompressed data.

Therefore, the "format determination part" determines a format of image data (i.e., either compressed or uncompressed) with the highest compression rate from the acquired format information (i.e., the connected apparatus' capability to extend or expand compressed image data) as the transfer-time format of the image data**].**

Regarding claims 22 and 29, NIITSUMA further teaches the image-forming apparatus as claimed in claim 1, wherein

the apparatus is connected to the image-forming apparatus through a network

[NIITSUMA illustrates a first embodiment shown in **Fig. 1** where an "image read out by digital copier 1 or 2 is transferred to the other apparatus through a network 4, and the image received from the other apparatus through the network 4 can also be formed by the digital copier 1 or 2"; **page 4, paragraph 49, lines 9 – 12].**

As for claim 23, NIITSUMA teaches an image-forming apparatus **[Fig. 2** digital copier **1]** with a hardware resource used for image formation **[Fig. 2** image forming means **14]**, a program for performing processing related to the image formation **[Fig. 2** controller **12;** "the control means 12 is structured by a single central processing unit CPU, and by this

single CPU, operations and controls of the ... digital copier 1 are conducted"; **page 6, paragraph 92, lines 1 - 4]**, and a communication part **[Fig. 2** network connecting means **11]**, the image-forming apparatus comprising:

a *format information generation* part that generates format information including a format of image data supportable by the image-forming apparatus

[NIITSUMA teaches an "image-forming apparatus" which corresponds to an "apparatus of the transferring point". NIITSUMA teaches that the "digital copier 1" (i.e., the "connected apparatus") communicates with the "apparatus of the transferring point" (i.e., "image-forming apparatus") "before the image data is transmitted, and the apparatus of the transmission point directs whether the image data is compressed or not, to the digital copier 1 during the communication"; **page 8, paragraph 117, lines 1 – 5.**

Therefore, NIITSUMA teaches an "image-forming apparatus" (i.e., the "apparatus of the transferring point"; e.g., a digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data) supportable by the "image-forming apparatus"**];**

a format information supply part that supplies the generated format information to an apparatus connected to the image-forming apparatus

via the communication part

[As just noted, NIITSUMA teaches an "image-forming apparatus" which communicates (or supplies) the generated format information to a "connected apparatus"**];**

and an image data conversion part that converts image data received from the connected apparatus in accordance with a format of the received image data

[NIITSUMA teaches that the "image-forming apparatus" (i.e., the apparatus of the transferring point) may have "an extension function to extend" (or expand) "the compressed image data" **[page 8, paragraph 117, lines 10 -11]].**

Regarding claim 24, NIITSUMA further teaches the image-forming apparatus as claimed in claim 23, wherein said format information includes *at least one of*:

information indicating, format by format, whether formats of image data are supportable by the image-forming apparatus

[As previously noted for claim 23, NIITSUMA teaches an "image-forming apparatus" (i.e., the "apparatus of the transferring point"; e.g., another digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data *formats*) supportable by the "image-forming apparatus"**];**

information on a format of image data convertible in the image-forming apparatus

[NIITSUMA further teaches that the "image-forming apparatus" may have an "extension function" that "extends" (or expands) compressed image data; **page 8, paragraph 117, lines 10 – 11.** When an "extension function" is present in the "image-forming apparatus", the "image-forming apparatus" directs the "connected apparatus" to compress the image data; **page 8, paragraph 117, lines 11 – 14.**

Therefore, "information on a format" of image data (i.e., compressed image data) convertible (i.e., "expandable") in the "image-forming apparatus" is communicated to the "connected apparatus".**];**

information on compression of the convertible format of image data

[As noted above, NIITSUMA teaches that the "image-forming apparatus" provides information by directing the "connected apparatus" to either compress or not compress the image data based on whether or not the "image-forming apparatus" has an "extension function". "When the apparatus ... has an extension function to extend the compressed image data, the apparatus directs" (the connected apparatus) "to compress the image data and transfer it, and when it does not have, the apparatus directs" (the connected apparatus) "to not compress the image data and transfer it"; **page 8, paragraph 117, lines 10 - 14];**

and information as to whether the formats of image data are convertible by hardware in the image-forming apparatus

[As noted above, NIITSUMA teaches that the "image-forming apparatus" conveys information (to the "connected apparatus") as to whether the image data is convertible by hardware (i.e., an "extension function") by directing the "connected apparatus" to either compress or not compress the image data**].**

Regarding claim 25, NIITSUMA further teaches the image-forming apparatus as claimed in claim 23, wherein

the apparatus is connected to the image-forming apparatus through a network

[NIITSUMA illustrates a first embodiment shown in **Fig. 1** where an "image read out by digital copier 1 or 2 is transferred to the other apparatus through a network 4, and the image received from the other apparatus through the network 4 can also be formed by the digital copier 1 or 2"; **page 4, paragraph 49, lines 9 – 12].**

As for claim 30, NIITSUMA teaches a method of transferring image data between first **[Fig. 1** digital copier **1]** and second image-forming apparatuses **[Fig. 1** digital copier **2]** connected via a network **[Fig. 1** network **4]**, the method comprising the steps of:

(a) the first image-forming apparatus generating format information including a format of image data supportable by the first image-forming apparatus

[NIITSUMA illustrates a first embodiment shown in **Fig. 1** where an "image read out by digital copier 1 or 2 is transferred to the other apparatus through a network 4, and the image received from the other apparatus through the network 4 can also be formed by the digital copier 1 or 2"; **page 4, paragraph 49, lines 9 – 12.**

NIITSUMA illustrates a second embodiment shown in **Fig. 3** where "the image forming apparatus is the digital copier, and the information processing apparatus is the personal computer"; **page 6, paragraph 87, lines 3 – 5.** NIITSUMA teaches that the second embodiment is "applied *also* for a case where the image forming apparatus *communicates* with the *other* image forming apparatus"; **page 6, paragraph 87, lines 9 – 11.**

NIITSUMA teaches a "second image-forming apparatus" (i.e., digital copier 1) that has a "compression means for compressing the image data and a compression selection means for automatically selecting and determining whether the image data is compressed by the compression means and transmitted, or the image data is not compressed and transmitted"; **page 8, paragraph112, lines 2 – 6.**

NIITSUMA teaches that the "compression selection means" may determine whether the image data is compressed and transmitted by various criteria. As NIITSUMA cites, one of these criterion is "according to the result of the

negotiation with the apparatus of the transferring point"; **page 8, paragraph 116, lines 1 – 2.**

The "first image-forming apparatus" corresponds to this "apparatus of the transferring point". NIITSUMA teaches that the "digital copier 1" (i.e., "second image-forming apparatus") communicates with the "apparatus of the transferring point" (i.e., "first image-forming apparatus") "before the image data is transmitted, and the apparatus of the transmission point directs whether the image data is compressed or not, to the digital copier 1 during the communication"; **page 8, paragraph 117, lines 1 – 5.**

Therefore, NIITSUMA teaches a "first image-forming apparatus" (i.e., the "apparatus of the transferring point"; e.g., another digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data) supportable by the first image-forming apparatus**];**

(b) the second image-forming apparatus acquiring the format information from the first image-forming apparatus via the network

[As noted above, the "second image-forming apparatus" corresponds to a "digital copier 1". This copier communicates with a "first image-forming apparatus" (i.e., another digital copier) and acquires format information supportable by the "first image-forming apparatus"**];**

(c) the second image-forming apparatus determining a transfer-time format of image data to be transferred to the first image-forming apparatus via the network based on the acquired format information

[As noted above, the "second image-forming apparatus" has a "compression selection means" which determines a "transfer-time format" for image data to be transferred to the "first image-forming apparatus" as a result of the negotiation between apparatuses];

and (d) the second image-forming apparatus performing format conversion of the image data to be transferred to the first image-forming apparatus via the network in accordance with the determined transfer-time format of the image data

[As noted above, the "second image-forming apparatus" has a "compression means" for compressing the image data. "Compressing data" corresponds to image data "format conversion".

The "second image-forming apparatus" determines a "transfer-time format" based on the negotiation between apparatuses. If the image data-receiving (i.e., "first image-forming") apparatus is capable of receiving compressed data, the "transfer-time format" is determined to be "compressed data". As a result, the "second image-forming apparatus" performs format conversion of the image data

by using the "compression means" prior to transferring the data to the "first image-forming apparatus"**].**

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2, 3, 4, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **NIITSUMA [US Patent Application 2001/0050782 A1]** in view of **KANEKO [US Patent Application 2002/0044298 A1]**.

Regarding claim 2, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 1, further comprising

> **an apparatus selection part that selects one or more from a plurality of apparatuses connected to the image-forming apparatus via the communication part.**

KANEKO, like NIITSUMA, teaches a method and apparatus for producing a copy on an image-forming apparatus from an image generated on another image-forming apparatus.

From **Fig. 1,** the image-forming apparatus (i.e., an "image input/output apparatus 200") is "comprised of a scanner 2070 as an image input device, a printer 2095 as an image output device, a controller unit 2000, and an operating section 2012 as a user interface"; **page 5, paragraph 71, lines 1 – 4.** The "controller unit" **2000** shown in **Fig. 2** has a "communications part" (i.e., "network section" **2010**) which is "connected to the LAN 2011 to carry out input and output of information"; **page 6, paragraph 77, lines 7 – 9.**

The "operating section 2012", illustrated in **Figs. 11** and **12**, further consists of an "LCD display" **2013** and "touch panel" **2019.**

Fig. 13 illustrates an "initial screen displayed on the LCD"; **page 9, paragraph 113, lines 1 – 2.** Soft key **3110** allows "the user to easily set the read image or images to be

allotted to a plurality of image output apparatuses for printing (this will be hereinafter referred to as 'the cascade copying'). A soft key, not shown, can be used to set a remote copy mode in which the read image is printed by another image output apparatus"; **page 9, paragraph 114, lines 11 – 16.**

Fig. 14 illustrates a "setting screen displayed when the soft key 3110 shown in Fig. 13 is depressed"; **page 9, paragraph 116, lines 1 – 3.** "Reference numeral 3204 denotes a display screen for displaying a list of combinations of image output apparatuses from which the image is to be output"; **page 9, paragraph 117, lines 11 – 13.**

The user interface shown in **Figures 13** and **14** corresponds to the "apparatus selection part" that selects one (for a "remote copy") or more (for a "cascaded copy") from a plurality of apparatuses.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of KANEKO with those of NIITSUMA so that one or more connected apparatuses could be selected for either remote copy or cascaded copy operation modes.

Regarding claim 3, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 2, wherein

said apparatus selection part selects the one or more apparatuses based on an input by an operator.

KANEKO further teaches that "one of the combinations of the image output apparatuses listed in the display screen 3204 can be selected ... by means of a touch input"; **page 9, paragraph 118, lines 5 – 7.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of KANEKO with those of NIITSUMA so that one or more connected apparatuses could be selected *by an operator* for either remote copy or cascaded copy operation modes.

Regarding claim 4, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 2, wherein

said apparatus selection part selects the one or more apparatuses based on information input to the image-forming apparatus.

KANEKO further teaches that the combination of output apparatuses shown in the display screen [**Fig. 14** display area **3204**] is based on the selected sheet size [**Fig. 14** sheet size soft keys **3201**]. KANEKO teaches "the display screen 3204 shows a list of combinations of image output apparatuses that can output the image with the sheet size selected by the group of soft keys 3201"; **page 9, paragraph 117, lines 14 – 17.**

KANEKO further cites, "information on the sizes of sheets on which each of the plurality of image output apparatuses ... can form images is stored and managed in a memory of the local apparatus (or a memory of a managing server on the network) in a manner distinguishing the sheet sizes for each of these image output apparatuses, so that the display screen 3204 is controlled to display the combination information based on the stored and managed information"; **page 9, paragraph 117, lines 19 – 27.**

Information pertaining to the capabilities of each of the output apparatuses corresponds to the "information input to the image-forming apparatus".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of KANEKO with those of NIITSUMA so that one or more connected apparatuses could be selected for either remote copy or cascaded copy operation modes *based on their respective capabilities*.

Regarding claim 7, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 1, wherein

> **said format information acquisition part stores the acquired format information based on a unit of the connected apparatus.**

As noted above, KANEKO teaches that the acquired format information may include "information on the sizes of sheets on which each of the plurality of image output

apparatuses ... can form images is stored and managed in a memory of the local apparatus (or a memory of a managing server on the network) in a manner distinguishing the sheet sizes for each of these image output apparatuses, so that the display screen 3204 is controlled to display the combination information based on the stored and managed information"; **page 9, paragraph 117, lines 19 – 27.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of KANEKO with those of NIITSUMA so that acquired format information, such as media (or sheet) size based on the media-handling capabilities (e.g., a size of a media tray unit) of the connected apparatus, is stored for later use by an "apparatus selection part".

8. Claims 9, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **NIITSUMA [US Patent Application 2001/0050782 A1]** in view of **SUZUE [US Patent 6,618,166 B1]**.

Regarding claims 9 and 27, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 1, wherein

> **said format information acquisition part acquires the format information from the connected apparatus *at a time of activation of the image-forming apparatus*.**

SUZUE teaches a "tandem image forming system" which is defined as a "system wherein image data are transmitted and received reciprocally and plural image forming apparatuses output images in parallel"; **col. 1, lines 12 – 14.**

SUZUE teaches that "when a power supply for a copying machine is turned on, initialization of OS is completed, and a tandem program representing a resident communication program is started"; **col. 6, lines 37 – 39.** Furthermore, "the tandem program searches for other copying machines connected to the network capable of conducting tandem operations. This searching process is called tandem negotiation"; **col. 6, lines 40 – 43.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of SUZUE with those of NIITSUMA so that format information of all image-forming apparatuses could be ascertained and shared through a negotiation process as soon as the respective apparatuses were turned on and became available on the shared network.

9. Claims 10, 11, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **NIITSUMA [US Patent Application 2001/0050782 A1]** and **SUZUE [US Patent 6,618,166 B1]** in view of **TODA [US Patent 6,256,107 B1]**.

Regarding claim 10, NIITSUMA and SUZUE do not specifically teach the image-forming apparatus as claimed in claim 9, further comprising

> **an *evaluation part* that evaluates the connected apparatus independently based on the format information acquired therefrom.**

TODA similarly teaches a system where copying is distributed among a plurality of remote copying machines. TODA teaches various ways to prioritize (or evaluate or rank) a "connected apparatus" by comparing "communication efficiency" [**col. 17, lines 45 - 46**], the capability of an image-forming apparatus to recognize "letters and characters" [**col. 18, lines 15 - 17**], or the capability of an image-forming apparatus to handle compressed image data [**col. 18, lines 20 - 22**].

TODA refers to the "evaluation part" as a "control means". TODA cites, "the control means preferably considers outputting capacities of the allocating machine and the destination machine searched out as an image forming device capable of outputting in accordance with the set conditions"; **col. 23, lines 34 – 38.**

As noted for claim 1, NIITSUMA teaches a "connected apparatus" (i.e., the "apparatus of the transferring point"; e.g., another digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data) supportable by the "connected apparatus"

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA and SUZUE so that an evaluation part could compare image data compression capabilities among all "connected apparatuses", and provide an operator prioritized (or ranked or graded) information so that copying could be effected in an efficient manner.

Regarding claim 11, NIITSUMA and SUZUE do not specifically teach the image-forming apparatus as claimed in claim 10, wherein

> **a *result of the evaluation* by said evaluation part is displayed to an operator.**

TODA teaches an LCD display [**Fig. 6** reference number **61**]. TODA further teaches the "control means causes information about the selected destination machines to be displayed" on the LCD, "and allows the operator to arbitrarily select any ones to be used for performing the outputting operation from among the selected destination machines"; **col. 24, lines 2 – 7.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA and SUZUE so that an evaluation part could compare image data compression capabilities among all "connected apparatuses", and provide an operator, *by means of a display (e.g., an*

LCD), prioritized (or ranked or graded) information so that copying could be effected in an efficient manner.

Regarding claim 12, NIITSUMA and SUZUE do not specifically teach the image-forming apparatus as claimed in claim 10, wherein

> **a *result of the evaluation* by said evaluation part is displayed on the image-forming apparatus.**

TODA teaches an LCD display **[Fig. 6** reference number **61]** which is a component of the "operation panel unit" **[Fig. 5** reference number **55]**. The "operation panel unit" is a component of the "image-forming apparatus".

TODA further teaches the "control means causes information about the selected destination machines to be displayed" on the LCD, "and allows the operator to arbitrarily select any ones to be used for performing the outputting operation from among the selected destination machines"; **col. 24, lines 2 – 7.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA and SUZUE so that an evaluation part could compare image data compression capabilities among all "connected apparatuses", and provide an operator prioritized (or ranked or graded)

information, *by means of a display (e.g., an LCD) as part of the "image-forming apparatus",* so that copying could be effected in an efficient manner.

Regarding claim 13, NIITSUMA and SUZUE do not specifically teach the image-forming apparatus as claimed in claim 9, further comprising

> **an *evaluation part* that evaluates each of apparatuses connected to the image-forming apparatus via the communication part independently based on the format information acquired there from.**

TODA similarly teaches a system where copying is distributed among a plurality of remote copying machines. TODA teaches various ways to prioritize (or evaluate or rank) a "connected apparatus" by comparing "communication efficiency" [**col. 17, lines 45 - 46**], the capability of an image-forming apparatus to recognize "letters and characters" [**col. 18, lines 15 - 17**], or the capability of an image-forming apparatus to handle compressed image data [**col. 18, lines 20 - 22**].

TODA refers to the "evaluation part" as a "control means". TODA cites, "the control means preferably considers outputting capacities of the allocating machine and the destination machine searched out as an image forming device capable of outputting in accordance with the set conditions"; **col. 23, lines 34 – 38.**

TODA further teaches a "communication part" **[Fig. 5** image data communication unit **57]** which is "intended to enable transmission of information including image information and image control signals with another digital image apparatus"; **col. 9, lines 13 – 16.**

As noted for claim 1, NIITSUMA teaches a "connected apparatus" (i.e., the "apparatus of the transferring point"; e.g., another digital copier) generating and communicating format information (i.e., either compressed or uncompressed image data) supportable by the "connected apparatus"

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA and SUZUE so that an evaluation part could compare image data compression capabilities among all "connected apparatuses", and provide an operator prioritized (or ranked or graded) information so that copying could be effected in an efficient manner.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **NIITSUMA [US Patent Application 2001/0050782 A1]** in view of **YOSHIDA [US Patent 6,931,432 B1]** and **HUTTENLOCHER [US Patent 6,011,905]**.

Regarding claim 14, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 1, wherein

said format determination part determines a *reversible compression* format from the acquired format information as the transfer-time format of the image data to be transferred to the connected apparatus.

As noted for claim 1, NIITSUMA teaches the "image-forming apparatus" corresponds to a "digital copier 1". This copier communicates with a "connected apparatus" (i.e., another digital copier) and acquires format information supportable by the "connected apparatus".

NIITSUMA further teaches the image-forming apparatus" has a "compression selection means" (or "format determination means") which determines a "transfer-time format" for image data to be transferred to the "connected apparatus" as a result of the negotiation between apparatuses.

However, NIITSUMA does not teach *determining a reversible compression format.*

Like NIITSUMA, YOSHIDA teaches an apparatus and method for "remote copying". **Fig. 1** illustrates an "image processing apparatus" **1001** connected to a local area network (LAN) **1010**. **Fig. 2** shows a "controller unit" **2000** "connected to devices such as a scanner 2070 serving as an image input device ... and a printer 2095 serving as an image output device ... and also connected to a LAN 2011 (LAN 1010) ... so as to

control the input/output operation of image information and device information"; **col. 5, lines 17 – 24.**

YOSHIDA further teaches that the controller unit contains an "image compression / decompression unit 2040" which "performs compression / decompression on image data according to the JPEG standard from multi-level image data and according to the JBIG, MMR, or MH technique for two-level image data"; **col. 5, line 66 – col. 6, line 3.**

HUTTENLOCHER teaches that "data compression techniques convert large data sets, such as arrays of data for pixel images of documents, into more compact representations from which the original large data sets can be either perfectly or imperfectly recovered"; **col. 3, lines 53 – 56.**

The instant applicant's "reversible compression format" corresponds to one in which the original data can be perfectly recovered.

HUTTENLOCHER further cites, "when the recovery is perfect, the compression technique is called lossless; when the recovery technique is imperfect, the compression technique is called lossy"; **col. 3, lines 56 – 59.** "Known encoding techniques that are suitable for lossless image compression include, CCITT Group-4 encoding, which is widely used for facsimile (fax) transmissions, and JBIG encoding"; **col. 4, lines 27 – 30.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of YOSHIDA and HUTTENLOCHER with those of NIITSUMA so that both "lossy" and "lossless" (i.e., reversible) types of compression could be used as the transfer-time format depending on the quality requirements of the copy made on the "connected apparatus".

11. Claims 15, 16, 17, 19, 20, 21, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **NIITSUMA [US Patent Application 2001/0050782 A1]** in view of **TODA [US Patent 6,256,107 B1]**.

Regarding claims 15 and 28, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 1, wherein

> **said format information acquisition part acquires the format information from the connected apparatus *at a time of transferring the image data* thereto.**

TODA teaches retrieving information regarding the capability of the remote copying machine at the beginning of a copy job **[Fig. 2** step "start copying?", **S1]**. "When the start key 13 is operated, the CPU 54 resets the image processing unit 51, and then outputs a command for a mode setup to the image processing unit 51 in accordance with conditions set by the operations panel unit 55, whereby the mode setup is performed (S2)"; **col. 13, lines 31 – 36.** Next, "the CPU 54 first checks whether or not

an instruction for the allocation processing operation has been given by the operation panel unit 55 (S3)"; **col. 13, lines 37 – 39.** "In the case where it is judged at ... step S3 that the job allocating operation should be performed, the CPU 54 executes the processing of the step S4, and then gives an image input command to the image processing unit 51, so as to cause a scanner unit 23 to start reading an image (S5)"; **col. 13, lines 51 – 55.**

Step S4 ["setup for allocation processing" in **Fig. 2**] is further detailed in **Fig. 1.** In step S20 [of **Fig. 1**], "the digital copying machine 1c, which is a copying machine used by the operator and through which an instruction for the job allocation is launched ..., judges whether or not conditions this time are identical to those when the previous job allocation was instructed (S20)"; **col. 14, line 65 – col. 15, line 4.** If they are not identical, processing goes to step S21 where "flags indicating various conditions that the operator requests are set" [**col. 15, lines 4 - 5**] followed by step S22 ["retrieve information of copying machine"] where "a copying machine whose setups match the aforementioned conditions is searched for (S22)"; **col. 15, lines 22 – 24**.

After the job allocation process [step **S4** in **Fig. 2**] shown in **Fig. 1** completes, the scanner reads the image or images to be copied [in steps **S5, S6** of **Fig. 2**] and transfers the image data in either steps **S6b** or **S8b** [of **Fig. 2**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA so that *current and accurate* format information (i.e., capabilities) of the "connected apparatuses" (i.e., copying machines) could be ascertained just prior to transferring the image data resulting in a higher likelihood of a successful job completion.

Regarding claim 16, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 15, wherein

> **said format information acquisition part acquires the format information from the connected apparatus *when an operator determines that the image data is to be transferred.***

As noted for claim 15, TODA teaches that the format information acquisition occurs when the operator presses the "start key" to begin the remote copying process.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA so that *current and accurate* format information (i.e., capabilities) of the "connected apparatuses" (i.e., copying machines) could be ascertained just prior to when an operator determines that the image data is to be transferred as this results in a higher likelihood of a successful job completion.

Regarding claim 17, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 15, further comprising

an *image quality selection part* that determines whether to transfer the image data with high image quality to the connected apparatus.

TODA teaches an "image quality setting screen" **[Fig. 8(d)]** which corresponds to the "image quality selection part". This figure illustrates that a user may select various quality settings such as "HI-FI", "Letter", or "Photograph".

Higher image quality copying jobs typically consume more ink or toner when compared with lower image quality copying jobs while lower quality copying jobs typically require less image data and therefore, require less time for completion. Higher image quality jobs typically are used for "final copies" while lower image quality jobs are typically used as "draft copies" for proofing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA in order to provide a user with "image quality" options to match the intended purpose and the intended recipient.

Regarding claim 19, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 15, further comprising

an *image quality selection part* that selects a level of image quality at which the image data is transferred to the connected apparatus.

TODA teaches an "image quality setting screen" **[Fig. 8(d)]** which corresponds to the "image quality selection part". This figure illustrates that a user may select various quality settings such as "HI-FI", "Letter", or "Photograph".

Higher image quality copying jobs typically consume more ink or toner when compared with lower image quality copying jobs while lower quality copying jobs typically require less image data and therefore, require less time for completion. Higher image quality jobs typically are used for "final copies" while lower image quality jobs are typically used as "draft copies" for proofing.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA in order to provide a user with "image quality" options to match the intended purpose and the intended recipient.

Regarding claim 20, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 15, wherein

said format determination part determines *whether to transfer the image data with a single format* when the image data is to be transferred to a

plurality of apparatuses **connected to the image-forming apparatus via the communication part.**

TODA teaches that efficiency gains are possible when a single format is chosen when transferring image data to a plurality of copying machines. TODA cites, "if the transfer is performed in a single common manner, the load on the allocating machine is remarkably reduced, thereby enhancing the processing efficiency"; **col. 17, lines 25 – 28.** TODA further teaches, "by prioritizing copying machines so that data are transferred to as many copying machines as possible in a single scheme, the transfer-related load on the allocating machine can be decreased, while an output job is allocated to many copying machines thereby improving the total efficiency of the output operation"; **col. 18, lines 1 – 6.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA in order to improve total efficiency of the output operation by using a single image data format.

Regarding claim 21, NIITSUMA does not specifically teach the image-forming apparatus as claimed in claim 20, wherein

said format determination part transfers the image data to the connected apparatuses with the *image data remaining unconverted* when the image

data is prevented from being transferred to the connected apparatuses with the single format.

TODA further teaches that whether data is transferred as either "converted" (e.g. compressed) or "unconverted" (e.g., not compressed) data depends on the amount of memory contained in each of the allocated copying machines. TODA cites, "In the case where image data are compressed and transferred, each of copying machines selected as destination machines is required to have a minimum memory needed to restore the compressed data to original image data. However, since the digital copying machine 1-2 does not have a memory, it cannot output a hard copy unless it receives data in an image-data form" (i.e., unconverted form) "which the machine can process for outputting"; **col. 18, lines 22 – 29.** In the example that follows **[col. 18, lines 30 - 35]**, digital copying machines 1-3 and 1-4 are selected and prioritized since both machines have sufficient memory to handle compressed image data. However, if digital copying machine 1-2 were to be included in the group of selected copying machines, or if a majority of connected copying machines lacked sufficient memory to handle compressed image data, it would have been obvious to transfer the image data in an "unconverted" (i.e., uncompressed) form.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of TODA with those of NIITSUMA by sending

"unconverted" image data when not all "connected apparatuses" have sufficient memory to handle compressed image data.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over **NIITSUMA [US Patent Application 2001/0050782 A1]** and **TODA [US Patent 6,256,107 B1]** in view of **YOSHIDA [US Patent 6,931,432 B1]** and **HUTTENLOCHER [US Patent 6,011,905]**.

Regarding claim 18, NIITSUMA and TODA do not specifically teach the image-forming apparatus as claimed in claim 17, wherein

> **said format determination part determines a *reversible compression format* from the acquired format information as the transfer-time format of the image data to be transferred to the connected apparatus when said *image quality selection part* determines that the image data is to be transferred with high image quality to the connected apparatus.**

As noted for claim 1, NIITSUMA teaches the "image-forming apparatus" corresponds to a "digital copier 1". This copier communicates with a "connected apparatus" (i.e., another digital copier) and acquires format information supportable by the "connected apparatus".

NIITSUMA further teaches the image-forming apparatus" has a "compression selection means" (or "format determination means") which determines a "transfer-time format" for image data to be transferred to the "connected apparatus" as a result of the negotiation between apparatuses.

As noted for claim 17, TODA teaches an "image quality selection part" (i.e., an "image quality setting screen").

However, neither NIITSUMA nor TODA teach *determining a reversible compression format.*

Like NIITSUMA and TODA, YOSHIDA teaches an apparatus and method for "remote copying". **Fig. 1** illustrates an "image processing apparatus" **1001** connected to a local area network (LAN) **1010**. **Fig. 2** shows a "controller unit" **2000** "connected to devices such as a scanner 2070 serving as an image input device ... and a printer 2095 serving as an image output device ... and also connected to a LAN 2011 (LAN 1010) ... so as to control the input/output operation of image information and device information"; **col. 5, lines 17 – 24.**

YOSHIDA further teaches that the controller unit contains an "image compression / decompression unit 2040" which "performs compression / decompression on image

data according to the JPEG standard from multi-level image data and according to the JBIG, MMR, or MH technique for two-level image data"; **col. 5, line 66 – col. 6, line 3.**

HUTTENLOCHER teaches that "data compression techniques convert large data sets, such as arrays of data for pixel images of documents, into more compact representations from which the original large data sets can be either perfectly or imperfectly recovered"; **col. 3, lines 53 – 56.**

The instant applicant's "reversible compression format" corresponds to one in which the original data can be perfectly recovered.

HUTTENLOCHER further cites, "when the recovery is perfect, the compression technique is called lossless; when the recovery technique is imperfect, the compression technique is called lossy"; **col. 3, lines 56 – 59.** "Known encoding techniques that are suitable for lossless image compression include, CCITT Group-4 encoding, which is widely used for facsimile (fax) transmissions, and JBIG encoding"; **col. 4, lines 27 – 30.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of YOSHIDA and HUTTENLOCHER with those of NIITSUMA and TODA so that a "lossless" (i.e., reversible) type of compression could be used as the transfer-time format when an operator desired, by means of an "image quality setting screen", a high quality copy.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter L. Cheng whose telephone number is 571-270-3007. The examiner can normally be reached on MONDAY - FRIDAY, 8:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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